REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments and the arguments set forth fully below. In the Office Action mailed June 4, 2007, claims 1-2, 4-26 and 28-46 have been rejected. In response, the Applicants have submitted the following remarks, cancelled claims 10 and 24, and amended claims 1, 11-12, 14-16, 28, 39, 42 and 46. Accordingly, claims 1-2, 4-9, 11-23, 25-26 and 28-46 are now pending. Favorable reconsideration is respectfully requested in view of the amended claims and the remarks below.

Rejections Under 35 U.S.C. §112

Claims 1-2, 4-26, and 28-46 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. By the above amendment, the Applicants have amended claims 1, 11-12, 14-16, 28, 39, 42 and 46, and have cancelled claims 10 and 24 in order to particularly point out and distinctly claim the subject matter which Applicant regards as the invention in response to the Examiner's discussion within the Office Action. For at least these reasons, the Applicant respectfully submits that the rejection under 35 U.S.C. §112, second paragraph be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 1-2, 4-18, 20, 22-33, 35 and 37-46 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0188205 to Mills (hereinafter Mills I), in view of U.S. Patent No. 5,957,860 to Olive (hereinafter Olive), and further in view of U.S. Patent No. 5,025,791 to Niwa (hereinafter Niwa). Applicants respectfully disagree with this rejection.

Mills I teaches a device and method for non-invasive continuous determination of physiologic characteristics. Mills I includes a device for the non-invasive monitoring of a physiologic characteristic including a tissue probe having a radiation emitter and a

radiation detector configured to receive the radiation after absorbents through the patient's blood, a position sensor for determining the relative height of the probe compared to a level corresponding to the patient's heart, and a controller for computing the physiologic characteristics of the patient's blood based on the absorbance of the first wave length of radiation and the relative height of the probe. It is also stated in Mills I that the probe further includes ECG leads (Mills I, paragraph 13). However, it is also taught in Mills I that while the probe 24 may include a single ECG electrode 28 (Mills I, paragraph 77), the teaching of Mills I indicates that those ECG probes 28 included in the probe 24 are utilized to collect non-reference ECG signals only. Mills I teaches the use of appropriate probes placed opposite digits in Figures 19 and 20, on opposite extremities in Figures 9 and 10, or placed on a digit as is shown in Figure 1 (Mills I, paragraph 129). However, Mills I does not teach a single transducer having a single electrode, wherein the single electrode is configured to collect either a reference or non-reference ECG signal. Furthermore, Mills I does not teach a neural-muscular transmission device as described and claimed in the present application.

The Olive reference teaches a method and apparatus for monitoring and/or controlling the neural-muscular blocking, especially the blocking produced by muscular relaxing pharmaceuticals during anesthesia. However, Olive does not teach the neural-muscular transmission device coupled to the single transducer as described and claimed in the present application.

The Niwa reference teaches a pulse oximeter with physical motion sensor. However, the Niwa reference does not teach a neural muscular transmission device as described and claimed in the present invention.

In contrast to the teachings of Mills I, Olive, Niwa, and their combination, the present invention includes a transducer 50, preferably a pulse oximeter transducer including an electrode 55 that functions as a reference or non-reference electrode for one or more ECG signals (present invention, paragraph 24, Figure 2). In the present invention, in simplified instruments that forego the use of a reference electrode, the

electrode 55 can act as any suitable terminal of an ECG lead. The Applicants respectfully point the Examiner to paragraph 24 and Figure 2 of the present invention, which succinctly outlines the single transducer 50 and single electrode 55, wherein the electrode of the present invention is configured to receive either the reference or non-reference ECG signal, depending upon its placement on the patient referring to paragraph 36 of the present invention, it is clear that the NMT device 300 and the transducer 50 can be connected to the monitoring system 20 by a single cable 53. This configuration operates such that the NMT device 300 and the transducer do not interfere with one another. Combining these two device into a single unit allows measurements to be taken on only one hand of the patient, thus attenuating the consequent artifacts in the ECG signals and/or the SpO_2 signals. Furthermore, the NMT device 300, as described and claimed in the present application, includes a support member 302 coupled to the substraight 60 and curved such that the other end of the support member 302 rests on the thumb of a patient. As described in paragraph 33, the support member of the NMT can include a pressure sensor 306 or a flexure sensor 304. This NMT device 300 can measure the strength of a muscle contraction between the support member 302 and the flexure sensor 304, or can measure the strength of the contraction between the support member 302 and the pressure sensor 306. It is this functionality and structure, combined with the configuration of the substraight 50 that is not taught by the combination of references introduced by the Examiner.

The independent claim 1 is directed to a method of acquiring pulse oximetry and electrocardiogram signals from a patient, the method comprising configuring a single transducer and attaching the single transducer to a finger of a patient, wherein the single transducer includes a single electrode such that when the single transducer is attached to the finger of the patient, the signal transducer is configured to acquire a pulse oximetry signal and acquire an electrocardiogram signal with the single electrode, wherein the acquired electrocardiogram signal is either one of a reference electrocardiogram signal or a non-reference electrocardiogram signal, and further wherein neural-muscular

transmission device is coupled to the transducer, and includes a support member that extends to a thumb of the patient; acquiring the pulse oximetry signal and the electrocardiogram signal with the single electrode; stimulating the patient with the neural-muscular transmission device; and measuring the strength of muscle contraction caused by the stimulating step; wherein use of the neural-muscular transmission device provides an artifact free pulse oximetry signal. As discussed above, neither Mills I, Olive, Niwa, nor their combination teach a neural muscular transmission device (NMT) configured as described and claimed in the present application such that use of the NMT avoids artifacts in the pulse oximetry signal. For at least these reasons the independent claim 1 is allowable over Mills I, Olive, Niwa, and their combination.

Claims 2, 4-9 and 11-15 are dependent upon the independent claim 1. As discussed above, the independent claim 1 is allowable over Mills I, Olive, Niwa and their combination. Accordingly, claims 2, 4-9 and 11-15 are also allowable as being dependent upon an allowable base claim. Claim 10 has been cancelled.

The independent claims 16, 28, 42 and 46 have been amended to include the additional limitations included independent claim 1. For the same reasons as argued above with respect to the independent claim 1, the Applicants respectfully submit that the independent claims 16, 28, 42 and 46 are also allowable over Mills I, Olive, Niwa and their combination.

Claims 17-18, 20, 22-23, 25-27, 29-33, 35, 37-41 and 43-45 are dependent upon the independent claim 16, 28 and 42. As discussed above, the independent claims 16, 28 and 42 are allowable over the teachings of Mills I, Olive, Niwa and their combination. Accordingly, claims 17-18, 20, 22-23, 25-27, 29-33, 35, 37-41 and 43-45 are also allowable as being dependent upon an allowable base claim. Claim 24 has been cancelled.

Claims 19, 21, 34 and 36 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Mills I, Olive and Niwa as applied to claims 16, 28 and 35 above, and further in view of U.S. Patent 6,023,541 to Merchant et al. (hereinafter Merchant).

Claims 19, 21, 34 and 36 are dependant upon the independent claims 16 and 28. As discussed above, the independent claims 16 and 28 are allowable over the teachings of Mills I, Olive, Niwa and their combination. Accordingly, claims 19, 21, 34 and 36 are also allowable as being dependent upon an allowable base claim.

For these reasons, Applicants respectfully submit that all of the claims are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at 414-271-7590 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,

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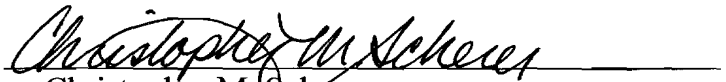
By 
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